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14

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/710,219	11/10/2000	Makoto Tanaka	09952-051001/54756-US-KK/	4727
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HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303				
			EXAMINER PIZARRO, RICARDO M	
			ART UNIT 2661	PAPER NUMBER

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/710,219

Applicant(s)

TANAKA ET AL.

Examiner

Ricardo Pizarro

Art Unit

2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-13, 15-20 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kamerman in view of Yoneda.

US patent No. 6,067,291 (Kamerman et al) discloses a CSMA wireless LAN comprising a plurality of antenna elements , forming a communication area comprised of a plurality of sectors (antenna elements sectors 20 in Fig.2) ; terminal station identifier means for determining whether there are at least two transmitting terminal stations in response to signal receptions by the plurality of antenna elements (defer threshold level 72 in Fig. 2 identifies if another station transmits then one of the stations will defer transmission i.e. at least two stations transmitting); and sector notifying means for notifying at least one of the determined transmitting terminal stations of sector information about the location of the terminal stations when it is determined by the terminal station identifier means that there are at least two terminal stations (distances at which carrier detect threshold level line crosses the carrier signal level curve determines boundaries, col 4 lines 63-67), as in claim 3.

Kamerman did not specifically disclose said plurality of antennas being provided in a base station, as in claim 3.

US patent No. 5,852,405 (Yoneda et al) discloses a wireless LAN system , comprising a master station - base station - including a plurality of antennas (Base station in Fig. 5 antennas 27a and 27b), as in claim 3.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to provide the antenna means as discloses by Yoneda to the system disclosed by Kamerman to obtain a system capable of arranging the problem of hidden terminals in a wireless LAN with the motivation of obtaining a wireless LAN system wherein channel allocation is performed more efficiently.

3. Claim 8 is rejected under 35 U.S.C. 102(a) as being anticipated by Kamerman. US patent No. 6,067,291 (Kamerman et al) discloses a CSMA wireless LAN comprising A CSMA wireless LAN comprising a plurality of antenna elements (antenna elements 20 in Fig.2) forming a communication area comprised of a plurality of sectors (defer threshold level 72 in Fig. 2 identifies if another station transmits then one of the stations will defer transmission i.e. at least two stations transmitting); terminal station identifier means for determining there are other transmitting terminal stations at the time of transmission from one terminal station in response to receptions by the plurality of **antenna elements** (defer threshold level 72 in Fig. 2 identifies if another station transmits then one of the stations will defer transmission i.e. at least two stations transmitting); sector notifying means for notifying the other terminal stations of the sector location of the other terminal stations when it is determined by the terminal

Art Unit: 2661

station identifier means that there are other terminal stations (distances at which carrier detect threshold level line crosses the carrier signal level curve determines boundaries, col 4 lines 63-67, i.e. location), as in claim 8.

Kamerman did not specifically disclose said plurality of antennas being provided in a base station, as in claim 8.

US patent No. 5,852,405 (Yoneda et al) discloses a wireless LAN system , comprising a master station - base station - including a plurality of antennas (Base station in Fig. 5 antennas 27a and 27b), as in claim 8.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to provide the antenna means as discloses by Yoneda to the system disclosed by Kamerman to obtain a system capable of arranging the problem of hidden terminals in a wireless LAN with the motivation of obtaining a wireless LAN system wherein channel allocation is performed more efficiently.

4. Claims 1, 7, 9, 10, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamerman.

US patent No. 6,067,291 (Kamerman et al) discloses a Wireless Local Area network with enhanced carrier sense provision comprising a CSMA wireless LAN (col 3 line 49) comprising antenna means (antenna elements 20 in Fig.2) , terminal station identifier means for determining whether there are at least two transmitting terminal stations in response to signal receptions by the antenna means (defer threshold level 72 in Fig. 2 identifies if another station transmits then one of the stations will defer transmission i.e. at least two stations transmitting); and power notifying means for

Art Unit: 2661

notifying at least one of the determined transmitting terminal stations to vary transmitting power (Carrier detect threshold 70 in Fig. 2) when it is determined by the terminal station identifier means that there are at least two *transmitting terminal* stations (if it is determined that at least two stations are transmitting one station will defer transmission), as in claims 1, 7, 9 and 17, monitor means for monitoring received power (carrier detect threshold circuit 70 monitors incoming data signal received via each antenna 20, col 4 lines 33-38), wherein the terminal station id number determines whether there are at least two transmitting stations based on received power (defer threshold –notifying means- is based on signal power level (col 8 lines 4-8); as in claim 1.

Kamerman did not specifically disclose increasing power transmission but due to its threshold capability, as in claims 1 and 10.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention that the Kamerman reference did not specifically disclose increasing power transmission but due to its threshold capability it would have been obvious that power could have been increased as needed as in claim 1 and 10, with the motivation of providing a wireless local area network with enhanced carrier sense provision yet capable of providing a substantially high co-channel medium reuse.

5. Claims 11,12 and 13 , 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamerman in view of Yoneda.

Art Unit: 2661

US patent No. 6,067,291 (Kamerman et al) discloses a Wireless Local Area network with enhanced carrier sense provision comprising a CSMA wireless LAN (col 3 line 49) further comprising antenna means (antenna elements 20 in Fig.2), terminal station identifier means for determining whether there are at least two transmitting terminal stations in response to signal receptions by the antenna means (defer threshold level 72 in Fig. 2 identifies if another station transmits then one of the stations will defer transmission i.e. at least two stations transmitting); and power notifying means for notifying at least one of the determined transmitting terminal stations to vary transmitting power (Carrier detect threshold 70 in Fig. 2) when it is determined by the terminal station identifier means that there are at least two *transmitting terminal* stations (if it is determined that at least two stations are transmitting one station will defer transmission), a terminal station having sector information notified from the sector notifying means (distances at which carrier detect threshold level line crosses the carrier signal level curve determines boundaries, col 4 lines 63-67), as in claims 11 and 13.

Kamerman did not specifically disclose calculating an orientation of a hidden terminal station in response to sector information in order to set a directivity to the calculated direction of a hidden terminal station, as in claims 11 and 13; wherein the terminal station has a plurality of antenna elements for forming a transmission beam directed toward the calculated direction of the hidden terminal station, each antenna element outputting a non-directional radio wave beam, as in claims 12 and 20.

US patent no. 5,852,405 (Yoneda et al) discloses a Wireless Lan System, comprising calculating an orientation of a hidden terminal station in response to the notified sector information in order to set a directivity to the calculated direction of the hidden terminal station((station antennas are constructed to have directivity and be adjusted, col 5 lines 55-58, col 8 lines 64-67, col 9 lines 1-3, col 10 lines 5-12), as in claims 11 and 13; wherein the terminal station has a plurality of antenna elements for forming a transmission beam directed toward the calculated direction of the hidden terminal station, each antenna element outputting a non-directional radio wave beam (col 5 lines 59-63), as in claims 12 and 20.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to provide the antenna adjusting means as disclosed by Yoneda to the system disclosed by Kamerman with the motivation of obtaining a CSMA wireless system wherein the problem of hidden terminal will not occur.

Allowable Subject Matter

6. Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claim.

Conclusion

7. Allowability of claims 9 , 15 and 17 is hereby withdrawn due to further review of cite references.

Art Unit: 2661

Applicant's arguments filed on 9/23/04 have been fully considered but they are not persuasive. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., Applicant argues that Kamerman fails to teach a base station including notifying means to notify a TS about the location of another TS. It is noted that claims 3 and 8 broadly recite a CSMA LAN comprising notifying means, such as the one disclosed by Kamerman, col 4 lines 63-67) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9306

(for formal communications intended for entry, for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to 220 South 20th Street, Crystal Plaza Two, Lobby, Room 1B03, Arlington, Va 22202 (Customer Window).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Ricardo Pizarro** whose telephone number is (571) 272-

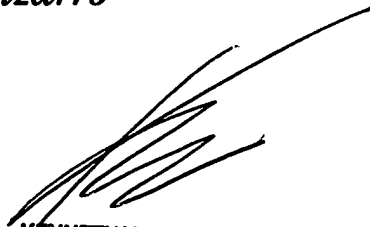
Art Unit: 2661

3077. The examiner can normally be reached on Monday-Friday from 9:00 AM to 5:30 PM. The fax number for this Group is (703) 872-9306.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Kenneth Vanderpuye** can be reached on (571) 272-3078.

January 24, 2005

Ricardo M. Pizarro



KENNETH VANDERPUYE
PRIMARY EXAMINER